

2001 VIRGINIA PIPING PLOVER REPORT

Table 1. Results from the 2001 Virginia piping plover breeding survey and end - of - season breeding pair estimates by site.

SITE	PIPING PLOVER SURVEY RESULTS, MAY 26 – JUN 3			END – OF – SEASON ESTIMATES	
	PAIRS	SINGLES	TOTAL	PAIRS	TOTAL
Assateague Island	27	7	61	32	64
Wallops Island	0	0	0	1	2
Assawoman Island	22	0	44	23	46
Metompkin Island	43	0	86	43	86
Cedar Sandbar*	2	0	4	5	10
Cedar Island*	13	0	26	13	26
Dawson Shoals*	0	0	0	0	0
Parramore Island	0	0	0	0	0
Hog Island	0	0	0	0	0
Cobb Island	0	0	0	0	0
Little Cobb Island	0	0	0	0	0
Wreck Island	0	0	0	0	0
Myrtle Island	2	0	4	2	4
Ship Shoal Island	0	0	0	0	0
Smith Island	0	0	0	0	0
Fisherman Island	0	0	0	0	0
Craney Island	0	0	0	0	0
Grandview Beach	0	0	0	0	0
Plum Tree Is. NWR	0	0	0	0	0
Back Bay NWR	0	0	0	0	0
False Cape SP	0	0	0	0	0
TOTALS	109	7	225	119	238

*Sites surveyed outside of the census window (Cedar Island and Cedar Sandbar - June 4; Dawson Shoals - June 6).

♣The difference between census population estimate and end-of-season estimate is due to nesting pairs being discovered outside of the census window.

Table 2. 2001 Piping plover productivity estimates in Virginia.

Site	Total nesting pairs	No. of pairs monitored	No. of chicks fledged	Productivity (2000 estimates)
Assateague Island	32	32	74	2.31 (1.61)
Wallops Island	1	1	0	0 (n/a)
Assawoman Island	23	23	37	1.61 (1.94)
Cedar Sandbar	5	5	5	1.00 (1.5)
Cedar Island	13	11	11	1.00 (1.0)
Metompkin Island - All	43	38	40	1.05 (1.0)
<i>Metompkin Is. – USFWS*</i>	7	7	12	1.71 (1.0)
<i>Metompkin Island – TNC*</i>	36	31	28	.90 (1.0)
STATEWIDE TOTALS	117	110	167	1.52 (1.42)

*Numbers excluded from table totals.

Assessment of the 2001 Breeding Season

Survey and productivity monitoring efforts carried out in 2001 were consistent with those conducted in past years with the exception of productivity monitoring on Assawoman Island (see below). The 2001 breeding population (total number of pairs; $n = 119$) increased by 24% over the 2000 population estimate of 96 pairs. Increases occurred on Wallops Island (no pairs in 2000; one pair in 2001), Assawoman Island (16 pairs in 2000; 23 pairs in 2001), Metompkin Island (28 pairs in 2000; 43 pairs in 2001), and Cedar Island (10 pairs in 2000; 13 pairs in 2001). As in 2000, no nesting activity was reported south of the breach on Cedar Island (south half) where most of the island's residential development is located. Although there is suitable habitat adjacent to the inlets at either end of the south half, human disturbance may have deterred plovers from nesting in those areas. The number of pairs decreased by 50% on the southern barrier islands (Parramore – Fisherman Island). In 2000, four pairs were observed on Myrtle Island; in 2001 only two pairs were found on the same site. All other southern islands were void of plovers during the survey. Moreover, no piping plovers were observed on Virginia's mainland beaches or at any inshore locations (i.e., Craney Island, Grandview Beach, or Plumtree Island NWR).

At this point it is difficult to explain this year's substantial increase in Virginia's breeding population. The 2001 total represents the state's fourth highest since 1986 and the last time Virginia had over 100 breeding pairs was in 1995 with 118. More years of data are needed to determine if the breeding population is rebounding to levels experienced in the late 1980's and early 1990's (1989 – 121 pairs, 1990 – 125 pairs, and 1991 – 131 pairs).

Ninety-two percent (110/119 pairs) of the Virginia breeding population was monitored for productivity this year. Chincoteague National Wildlife Refuge (CNWR) Staff conducted work on Assateague, Wallops and Assawoman Islands. Metompkin and Cedar Islands were monitored by Virginia Dept. of Game and Inland Fisheries Staff. Statewide productivity increased this year (Table 2) largely because of high

productivity experienced on Assateague Island. Continued intensive mammalian and avian predator management and productivity monitoring, along with the use of nest exclosures and mild climatic conditions, probably contributed greatly to the success on Assateague. Of the 126 eggs produced this year, 20% were lost to infertility ($n = 12$), depredation ($n = 5$), abandonment ($n = 4$), weather ($n = 2$), and unknown causes ($n = 2$; USFWS 2001). In 2000, 39% of the island's total egg production ($n = 141$) was lost mostly to abandonment and infertility (USFWS 2000). Chick loss on Assateague Island was also lower this year with 28% compared to 42% in 2000. No eggs were lost from the Wallops Island nest, which unfortunately fledged no young (USFWS 2001). In 2001, monitoring efforts on Assawoman Island increased to five days per week from one to three days per week last year. Nest exclosures were not used either year on Assawoman Island. Of the 101 eggs produced on the site in 2001, 20% were lost to abandonment ($n = 12$) and infertility ($n = 8$). Despite mammalian and avian predator management conducted on Assawoman Island in 2001, approximately 54% of the chicks that hatched successfully were likely lost to red fox and gulls (USFWS 2001). In 2000, when no predator control measures were taken on Assawoman, hatching success was high, however, roughly half of the chicks produced were reportedly lost to gulls (USFWS 2000). Overall, productivity remained high on Assawoman Island in 2001. This year's increase in number of nesting pairs and high productivity has been attributed to good productivity in the previous two years (1999 with 1.66 and 2000 with 1.94; Table 2), improved nesting habitat, increased monitoring efforts, and predator control (USFWS 2001).

Monitoring efforts on Metompkin Island, Cedar Sandbar, which is still connected to the north end of Cedar Island, and Cedar Island continued to focus more on ascertaining productivity of known nests and less on determining causes of egg/chick loss. Because of logistical and staff constraints, the number of days between nest site visits ranged from two to eight days, which likely resulted in the loss of information on the status of individual nests/broods. As best as can be determined, nests monitored on Cedar Sandbar and the USFWS's portion of Metompkin Island sustained no egg loss. Thirty percent of the 27 eggs monitored on Cedar Island were lost for unknown reasons ($n = 7$) and to abandonment ($n = 1$). Of the 94 eggs monitored on The Nature Conservancy's portion of Metompkin Island, 12% were lost to abandonment ($n = 9$) and unknown causes ($n = 2$). Even less is known about chick loss on Metompkin Island, Cedar Sandbar and Cedar Island. Because nest sites were not visited daily, it is possible that productivity was underestimated at these locations, all of which offer plovers excellent nesting and foraging habitats with relatively little human disturbance. Of the three sites where plovers were present, Cedar Sandbar probably experienced the greatest degree of human disturbance. It is a popular day-use area and an old coast guard station just south of the sandbar that has been converted into a multi-family owned beach house (with a four-wheel drive vehicle) appeared to be occupied for a portion of the nesting season. Although there was noticeably more mammalian predator sign (raccoon and fox) on Cedar Island than on Metompkin Island in 2001, productivity was about the same (Table 2). As such, it is difficult to ascertain the degree of impact by mammalian predators. During the last several years, The Nature Conservancy's Virginia Coast Reserve in partnership with CNWR, has been engaged in habitat enhancement efforts, which include controlling mammalian predator populations on Assawoman, Metompkin and Cedar Islands and on some of the southern islands. We are hopeful that this work will help increase future plover nesting activity and productivity at these sites.

Literature Cited

USFWS. 2000. Piping plover monitoring and management: summer 2000 report. Unpublished report. Chincoteague National Wildlife Refuge, Chincoteague, VA.

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